Reflective Practice as a Tool to Overcome the Barriers to Adverse Childhood Experiences Screening in Adults

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The DNP Project committee for Erika Shaw certifies that this is the approved version of the following DNP Project:

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Abstract

Problem: There is a significant dose-dependent relationship between traumatic experiences faced in childhood and poor adult health outcomes including substance abuse, chronic psychological and physical disease, and early mortality. Childhood trauma alters the chemistry of the developing brain and body, negatively influencing long-term health. The Adverse Childhood Experiences (ACE) screening tool is a binary response questionnaire consisting of ten questions that assess for history of childhood trauma. Despite mounting evidence to support the use of this tool and the great potential to enhance preventive, trauma-informed care, screening of adults for Adverse Childhood Experiences in primary care is not common practice. Perceived barriers to implementation cited by providers include time constraints, lack of training and confidence in screening and management of patients with a history of childhood trauma. Duchesne Clinic began the process of screening for ACEs by admission staff during the qualifying process. However, providers required support and guidance as they began to discuss the screening results with their patients and integrate ACE screening scores into plans of care.

Project Aim: The aim of this project was to implement a guided reflective practice intervention with Duchesne Clinic providers to facilitate management of patients with high ACE scores.

Project Method: This was a quality improvement (QI) DNP project at a safety net clinic in Kansas City, KS. Pre and post-intervention survey data was analyzed to assess changes in providers' confidence and perceived barriers to management of patients with high ACE scores after four weeks of guided reflective practice intervention. Additionally, thematic analysis was performed to identify themes expressed by the providers in their reflection of their encounters with patients and their perceptions regarding management of patients with high ACE scores.

Findings: Each of the seven questions on the ACE Provider Questionnaire yielded mean gains ranging between 0.25 to 1.2. A thematic analysis of the notes taken during all the interviews over the four-week guided reflective practice intervention produced

the following themes: time as a barrier; feeling unprepared and unable to help patients with trauma history; re-traumatization; and strategies and tools for caring for patients with a history of trauma.

Conclusions: Guided reflective practice was a successful tool to assist the providers at Duchesne Clinic to gain confidence and reduce the barriers to caring for patients with high ACE scores. Additionally, the sessions facilitated rich, honest and productive conversations between the Project Director, the Medical Director of Duchesne and each of the five providers and yielded a set of best practices for ACE screening and management at Duchesne Clinic.

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Introduction to the Problem

Preventive health care is taking on new meaning in the context of a greater understanding of the role of childhood trauma on subsequent adult health outcomes. Research points to a significant link between high levels of trauma and stress faced during early childhood and propensity for substance use and dependence, obesity and chronic physical and psychological illness in adulthood (Felitti et al., 1998). Consequently, there is also a much higher usage of health care as well as earlier mortality in adults who have a history of childhood trauma (Kalmakis, Shafer, Chandler, Aponte & Roberts, 2018).

The landmark Kaiser Permanente study by Filetti et al. (1998), and a tremendous body of research following, have determined that screening for childhood trauma by use of the Adverse Childhood Experiences (ACE) tool is not only feasible, but crucial for best practice. Despite this evidence, most primary care clinics do not routinely screen patients for a history of childhood trauma.

By screening adult patients for Adverse Childhood Experiences (ACEs), providers are able to gain a better understanding of how past experiences have contributed to patients' current state of health and thus provide more holistic care to mitigate the lasting effects of trauma. The purpose of this Doctor of Nursing Practice (DNP) quality improvement project was to use a reflective practice intervention with providers to facilitate management of patients with high ACE scores at Duchesne Clinic, an adult primary health care safety net clinic in Wyandotte County, Kansas City, KS.

Background

The prevalence of chronic health conditions in the United States is oppressive. One out of every two adults has a chronic disease and one out of every four adults suffers from two or more chronic diseases (CDC, 2018a). Chronic diseases such as heart disease, diabetes, and cancer are leading causes of death and disability (CDC, 2018a). Eighty-six percent of the $2.7 trillion spent annually on health care in the United States is used to care for patients with chronic diseases or mental health conditions (CDC, 2018b). Many of these chronic diseases can be prevented; however, prevention may require a shift in how the antecedents of chronic illness such as childhood trauma are perceived and managed in primary care.

Trauma is a universal human experience which transcends boundaries of culture, race and socioeconomic status. Childhood trauma takes on many forms and creates lasting effects on the developing brain which influence long-term health behaviors and health outcomes (Jichlinski, 2017*).* Statistically, as the number of ACEs increases, so does the risk of developing chronic diseases such as ischemic heart disease, cancer, obesity, and chronic lung and liver disease (Leitch, 2017).

The importance of screening for ACEs has gained nationwide attention. The Behavioral Risk Factor Surveillance System (BRFSS) has collected extensive data on ACEs in 32 states since 2009 and the results are similar to the Filetti ACE study of 1998 (CDC, 2018c). The data show that childhood trauma is shockingly pervasive. Of the adults surveyed, almost two-thirds reported at least one ACE and one in five reported three or more ACEs (CDC, 2018c). A further breakdown of the data shows that one out of every five children has been sexually molested and one in four children has been physically abused by a parent (Pardee et al., 2017). State and local

organizations have recognized the importance of ACE screening and have begun to collect and publish data.

The site location of this project was Duchesne Clinic, which is in Wyandotte County, Kansas City, Kansas. The 2017 Wyandotte County Community Health Assessment reports higher rates of ACEs in Wyandotte County than in neighboring counties or in the state of Kansas. Sixty-four percent of adults report at least one ACE as compared to 54.5% of adults in Kansas as a whole. Furthermore, 28.6% of Hispanic adults in Wyandotte County report high ACE scores (3 or greater), as well as 20.5% of non- Hispanic Black adults and 22.5% of non-Hispanic white adults (Collie-Akers et al., 2017). The report also documents higher rates of ACEs in Wyandotte County residents with a household income less than $25,000 and less than a high school diploma. Wyandotte residents perceive financial struggle and "systemic issues that increase the difficulty of daily life" as stressors that contribute to child maltreatment (Collie-Akers et al., 2017, p. 21).

The heightened awareness of the prevalence of childhood trauma and the impact of trauma on health and chronic illness has precipitated a new approach to primary health care, termed "trauma-informed care." With this practice, an organization commits to creating a climate of care in which all patient interactions are fostered through a trauma-informed lens (Earls, 2018). Thus, all interactions, whether they occur between staff or with individual patients, families, or the community, are met with an understanding of the prevalence of ACEs and other trauma, and the cumulative effects of trauma on the health of the person and his or her family and community associations. Although many primary care organizations have begun to take steps toward incorporating behavioral health into practice, true trauma-informed primary care practice is not commonplace.

Statement of the Problem

The aforementioned statistics and the evidence of the link between childhood trauma and chronic physical and mental illness demonstrate the imprudence of ignoring patients' past traumatic experiences in the primary care setting. Despite their knowledge of the importance of screening for childhood trauma, 32% percent of physicians do not screen for ACEs and only 4% of physicians perform a comprehensive screen (Jichlinski, 2017). Primary barriers to screening include provider comfort level with addressing psychosocial concerns, limited time with short patient visits, and limited resources and difficulty with referral or consultation (Dayton et al., 2016). The staff at the Duchesne Clinic had voiced concerns which identified with these commonly experienced obstacles. On January 1, 2019, Duchesne Clinic began the process of screening for ACEs by admission staff during the qualifying process; however, providers needed support and guidance as they began to discuss the screening results with their patients and integrated ACE screening scores into plans of care.

Goals, Objectives and Expected Outcomes

The primary objective of this quality improvement project was to implement a guided reflective practice intervention to assist providers in overcoming the barriers to ACE screening and management. The primary expected outcome was an increase in provider confidence in management of patients with high ACE scores. Evaluation was accomplished through analysis of the results of a survey given to providers before intervention and after the completion of four weeks of reflective practice sessions (see Appendix A).

A secondary aim was to identify themes of providers' perceptions of the integration of ACEs in primary care practice at Duchesne Clinic. The themes were used to facilitate a more contextual understanding of the barriers and facilitators specific to screening and management of

ACEs at Duchesne Clinic. This information was a request from the Medical Director of Duchesne and the Wyandotte Health Foundation grant committee to create a sustainable ACE screening and management practice. This information has the potential to influence future funding and goals for staff training as Duchesne Clinic transforms to a trauma-informed organization.

Definition of Terms and Concepts

Toxic Stress

Childhood trauma creates toxic stress during the critical period of brain development and permanently alters brain chemistry (Earls, 2018). The human brain is designed to react to stressors by an increase in levels of cortisol, which enables a "fight or flight" response (Pardee et al., 2017). This response is normal and advantageous when the stressor is not harmful or constant and the brain is allowed to return to a normal state once the stressor is removed (Pardee et al., 2017). Toxic stress occurs with "intense, repetitive, and/ or chronic stress that supersedes normal levels when present in the daily life of child" (Jichlinski, 2017, p.2). Levels of cortisol, norepinephrine, and epinephrine remain elevated leading to permanent structural changes in the brain and other organs (Jichlinski, 2017). These biological changes impair learning and memory and alter the brain's ability to cope with stress and anxiety (Jachlincki, 2017).

Adverse Childhood Experiences

The ACE screening tool consists of ten questions that inquire about recurrent and severe physical abuse, recurrent and severe emotional abuse, sexual abuse, parental divorce or separation, physical and emotional neglect, substance abuse by a member of the household, incarceration of a family member, mental illness of a member of the household, and having a

mother who was physically abused (Earls, 2018). Each question that elicits a positive response is termed an ACE and given one point (see Appendix B).

Trauma-Informed Care

The Substance Abuse and Mental Health Services Administration (SAMHSA) has outlined four essential elements titled the "Four R's of a Trauma- Informed Approach." All staff are trained to *Realize* the widespread impact of trauma as well as the potential pathways for mitigation of the effects of past trauma (SAHMSA, 2017). They are also able to *Recognize* the signs and symptoms of trauma in patients, families, staff and others involved with the organization (SAMHSA, 2017). Policies, procedures and practices are designed to *Respond* to the needs of individuals and the community based on the knowledge and understanding of the effects of trauma. Lastly, staff actively *Resist* re- traumatization, which can occur when past trauma experiences are not managed appropriately (SAMHSA, 2017). Additionally, the six tenets of a trauma-informed approach to care are (1) safety, (2) trustworthiness and transparency, (3) peer support, (4) collaboration and mutuality, (5) empowerment, voice and choice, and (6) cultural, historical and gender issues must be appreciated and protected (SAMHSA, 2017).

Review of the Literature

A literature review was conducted from August 2018 through January 2019 to evaluate the most current data on ACE screening of adults in the primary care setting. Databases searched included CINAHL, PubMed, and Google Scholar. The following search terms were used: *Adverse Childhood Experiences, ACEs, childhood abuse, childhood maltreatment, adults, primary care, screening, barriers and obstacles.* The snowball method was used to further identify studies of significance. The publication date of the included studies was limited to the five years preceding the literature review, from January 2013 through January 2019 with the

following exceptions: the landmark Felitti et al. study (1998), a systematic review by Havig in 2008, and a commonly referenced study by Weinreb et al. published in 2010. Additional inclusion criteria requirements were studies written in English, peer reviewed, those with adult-only sample population, and those in primary care practice or using adult BRFSS data. Studies using pediatric or obstetric populations or studies not related to adult primary care patients and providers were excluded from review. A total of 14 studies were included in this review, including 11 from the last five years of publication and the aforementioned three additional exceptions. Two of the studies were systematic reviews. The other 12 described primary level three research, as described by the John Hopkins Nursing Evidence-based Practice Rating Scale, which describes the levels of evidence based on the study methods (Newhouse, 2005). Non-experimental studies, qualitative studies, and meta-synthesis are level three evidence based on this scale (Newhouse, 2005).

The goal of the literature review was to examine the most current evidence of the effects of ACEs on adult health and to explore possible reasons for the gap between this knowledge and the implementation of ACE screening in primary care. The objectives of the selected articles included an analysis of the prevalence and trends of ACE scores in primary care patients, determination of feasibility of ACE screening in primary care, and assessment of the management of ACEs from the providers' point of view. The themes that emerged from the literature review included the pervasiveness of ACEs in primary care patients, lack of routine screening in adult primary care practice, and the associated barriers and facilitators for future ACE screening practice.

Evidence of Prevalence of ACEs in Adult Primary Care Patients

In May 1998, Felitti et al. published a groundbreaking study which revealed the lifelong impact of Adverse Childhood Experiences on adult disease risk factors and incidence of chronic psychological and physical disease. This study, which included 8,056 adult patients at San Diego's Kaiser Permanente primary care clinic, was the first of its kind to link early childhood abuse and household dysfunction to poor adult health outcomes, decreased quality of life, increased health care utilization and mortality (Felitti et al.,1998). The ACE questionnaire which was constructed for use in the Felitti, et al. study was the screening tool used in its entirety or condensed in all the subsequent studies described in this review of the literature.

The results of the Felitti et al. study showed that 52% of responders reported experiencing one or more ACEs and 6.2% reported four or greater ACEs (Feliiti et al., 1998). Felitti and colleagues (1998) found a dose-dependent relationship between the number of ACEs and the prevalence and risk (adjusted odds ratio) of health risk behaviors and chronic disease. The greater the number of ACEs reported, the greater the risk of poor lifestyle behaviors and subsequent chronic disease (Felitti et al., 1998). When the cut-off of four or greater ACE exposures was analyzed in comparison with those who reported zero exposures, the odds of health risks such as smoking, alcoholism, sedentary lifestyle, sexual promiscuity and obesity were significantly increased (Felitti et al., 1998). The odds of developing psychological illness is also markedly increased. Astoundingly, an individual with an ACE score of 4 or greater has 12.2 times the risk of suicide (Felitti et al., 1998). Even more compelling, the researchers concluded that there was a greater propensity for individuals with higher ACE scores to engage in risky lifestyle behaviors as well as a higher risk of chronic disease even when results are adjusted for health risk behaviors (Felitti et al., 1998). The authors concluded that the effect of trauma is

cumulative; therefore, “these childhood experiences should be recognized as the basic causes of morbidity and mortality in adult life” (Felitti et al., 1998, p 246).

Data from the BRFSS has been a useful source of information for monitoring prevalence of ACEs and for use in research. A statistical analysis of the BRFSS data from five states (48,526 participants) in 2014 produced results similar to the finding of Felitti and colleagues, as well as other studies analyzing BRFSS data prior to 2014 (Campbell & Walker, 2016). In addition to reporting higher odds of health risk behaviors and chronic disease amongst individuals with ACE exposure, Campbell and Walker (2016) found significant relationships that differed by type of adverse childhood experience. For example, those who answered affirmatively to history of physical abuse had a 48% greater risk of reporting disability by poor health. On the other hand, those whose ACEs were related to sexual trauma had an 80% increased risk of depression, 59% increased risk of obesity and 45% increased risk of diabetes (Campbell & Walker, 2016). A systematic review of “adverse childhood experiences” by Kalmakis and Chandler (2015) found several studies which also indicated that adult health outcomes varied in relationship to the type of ACE exposure. Additionally, this systematic review of 42 studies found consistent evidence of a cumulative effect of ACEs congruent with the research presented in this review of the literature as well as the original Felitti et al. Kaiser Permanente study of 1998 (Kalmakis & Chandler, 2015).

Further analysis of BRFSS data including 23 states and a sample of 214,147 adults shows that although ACEs are present throughout all socioeconomic categories, risk of experiencing adverse childhood experiences varies significantly by sex, race, sexuality, high school education and income (Merrick, Ford, Ports & Guinn, 2018). By calculation of mean ACE scores, the prevalence of adverse childhood experiences was higher among women (mean score, 1.68. 95%

CI, 1.65-1.70), those with less than a high school education (mean score, 1.97, 95% CI, 1.88-2.05), household income less than $15,000 per year (mean score, 2.16, 95% CI, 2.09-2.23), and those identifying as gay/ lesbian (mean score, 2.19, 95% CI, 1.95-2.43) (Merrick, Ford, Ports & Guinn, 2018). Those who identified as multiracial had the highest incidence of adverse childhood experiences (mean score, 2.52, 95% CI, 2.36-2.67) of any race or ethnicity (Merrick et al., 2018).

The relationship of demographics and ACE scores was further analyzed by Miller-Cribbs, Wen, Coon and Jelley (2016), who found that amongst a sample of 354 primary care patients, individuals with higher ACE scores had significantly greater barriers to accessing care. When controlling for demographics such as sex, level of education, health literacy, social support, community problems and income, the findings for this population reveal a significant association between ACEs and poor access to health care (Miller- Cribbs et al., 2016). Additionally, higher ACE scores correlated with greater likelihood of experiencing medical debt, being uninsured, going without medical care due to financial reasons, using the emergency room for health care, and not having a consistent primary care provider (Miller-Cribbs et al., 2016).

The research indicates an epigenetic component of the relationship between ACEs and adult health behaviors and outcomes. Due to the nature of the subject, experimental research is not a possibility when studying the effects of childhood adversity. However, as the evidence of the association mounts, researchers suggest a probable causative effect of ACEs on chronic illness (Keeshin, Cronholm, & Strawn, 2012; Purkey, Patel, Beckett, & Mathieu, 2018). Increased rates of disease are found in patients with high ACE scores when risk factors such as smoking and substance use were adjusted for (Purkey et al., 2018). A strong graded relationship between ACE exposure and self-reported mental and physical disability was found after

controlling for chronic physical and mental health conditions, which supports the evidence of an altered biological stress response in those who have been victims of childhood adversity (Schussler- Fiorenza Rose, Xie, & Stineman, 2015).

Barriers to ACE Screening in Primary Care

Despite the overwhelming evidence spanning over two decades that showed that ACE exposure is a precursor to poor adult health outcomes, screening for a history of ACEs is still not a routine practice in primary care (Kalmakis, Roberts, & Leung, 2017). Several barriers to implementation are alluded to throughout the literature. Three studies explored providers' perceptions of skills, confidence, and knowledge of ACE screening, as well as concerns and perceived barriers.

A mixed methods study examined questionnaires of 188 primary care nurse practitioners and qualitative data obtained from participant focus groups found that only 34% "usually" or "always" screened their patients for a history of childhood abuse (Kalmakis et al., 2017). Even when patients were screened routinely and had a history of childhood maltreatment, 71% of these nurse practitioners "rarely" or "never" discussed this abuse history at subsequent visits (Kalmakis et al., 2017). A similar study assessed the screening practices among 133 members of the Academy of Family Physicians and concluded that only 29.6% of these physicians "usually" or "always" screen their patients for adverse childhood experiences and that they screened women more frequently than men (Weinreb et al., 2010). Furthermore, of 112 family medicine residents, only 1.8% report screening patients at the initial visit (Tink, Tink, Turin & Kelly, 2017).

Lack of time to screen patients for ACEs and to provide further counseling to patients with high ACE scores is a commonly perceived barrier to implementation of routine screening

(Kalmakis et al., 2017; Weinreb, 2010). A majority (92%) of family physicians surveyed by Weinreb and colleagues (2010) believed that they do not have enough time to screen or provide appropriate counseling to their patients, citing competing primary care recommendations as consuming their time with patients.

Health care providers report inadequate or nonexistent education on adverse childhood experiences (Kalmakis et al., 2017; Weinreb et al., 2010). Of the nurse practitioners surveyed by Kalmakis and colleagues (2017), 36% report learning about ACE screening in their graduate programs. Forty percent of physicians surveyed in 2007 reported no formal training on adverse childhood experiences (Weinreb et al, 2010). A more recent study conducted in 2013 discovered that 54.5% of family practice residents reported no education on ACE screening (Tink et al., 2017). Among providers, there is a significant misconception about the prevalence of adverse childhood experiences and lack of understanding of the adult health outcomes that result from exposure to ACEs (Kalmakis et al., 2017). Of the nurse practitioners surveyed by Kalmakis and colleagues (2017), 41% believed that less than 10% of adult female patients have a history of childhood trauma and 68% believed that less than 10% of male patients have a history of childhood trauma.

Nurse practitioners and physicians alike report lack of confidence and discomfort with management of ACEs as another barrier to implementation of screening (Kalmakis et al., 2017; Weinreb et al., 2010; Tink et al., 2017). Only 50.3% of the physicians surveyed were "moderately" or "very confident" in their ability to screen for ACEs (Weinreb et al., 2010). Discomfort rises as health care providers feel concern about offending a patient by screening for history of childhood abuse (Kalmakis et al., 2017; Tink, et al., 2017). There is a significant perception that asking about ACEs could potentially retraumatize the patient (Kalmakis et al.,

2017). Additionally, health care providers feel that there is little that they can do to help patients with a history of adverse childhood experiences (Kalmakis et al. 2017; Tink et al., 2017).

Guidelines have been established for screening women for intimate partner violence and elders for abuse; however, there are currently no clinical guidelines for addressing ACEs in primary care (Kalmakis & Chandler, 2015). The U.S. Preventive Services Task Force (USPSTF) has published recommendations for screening for child maltreatment in the pediatric population only (Kalmakis et al., 2017). As a result, rates of ACE screening and management of adult patients with a history of childhood abuse vary with the confidence, knowledge and perceptions of individual providers.

Facilitators of ACE Screening in Primary Care

There is evidence to show that ACE screening in primary care is feasible and that the perceived barriers can be overcome (Glowa, Olson & Johnson, 2016; Kalmakis, Shafer, Chandler, Aponte & Roberts, 2018). When screening was implemented by seven providers at three rural New England clinics, post intervention surveys of providers' experience with screening revealed that providers felt that the screening was acceptable to the patient 98% of the time and that screening performed by nursing staff prior to the visit did not interfere with the patient visit 100% of the time (Glowa et al., 2016). The providers felt that the screening gave them new information about their patients and that discussion of screening results increased the clinic visit time by less than five minutes in 90% of encounters (Glowa, et al., 2016). Notably, 22% of the patients surveyed by the providers in this study had ACE scores ≥4. Similarly, when Kalmakis and colleagues (2018) implemented ACE screening by nurse practitioner students, the screening was found to take an average of 8.5 minutes, which was perceived to be a reasonable and feasible time to allot to the intervention (Kalmakis et al., 2018). The nurse practitioner

student interviewers who were new to ACE screening reported feeling very comfortable and confident after completing two screenings (Kalmakis et al., 2018).

Nurse practitioners who report “usually” or “always” performing ACE screening also report greater confidence in their ability to screen (Kalmakis et al., 2017). Additionally, despite the low rates of reported confidence in screening, primary care physicians and nurse practitioners believe that their role does include screening for ACEs (Weinreb et al., 2010; Kalmakis et al., 2017). This is significant as confidence with management of ACEs “emerges as one of the major independent predictors of screening” (Weinreb, 2010, p. 13).

Two recent qualitative studies provide evidence to disprove the concerns about the risk of re-traumatization as a result of ACE screening. Purkey and colleagues (2018) surveyed 26 female primary care patients with ACE scores of four or greater and two or more chronic health conditions to gain a better understanding of their experiences and perspective on being screened for childhood trauma. The participants reported that more often than not, their primary care provider did not ask about childhood trauma, but that they felt strongly that doing so was not only appropriate and acceptable, but that it was an important component of being cared for as a “whole person and having a doctor who appeared to be invested in a long-term relationship” (Purkey et al.,2018, p 209). Moreover, none of the participants reported experiencing re-traumatization during discussion of their childhood abuse, but rather they communicated that events that trigger emotional distress are physical in nature, such as gynecological exams, unexpected physical contact and exams by male providers (Purkey et al., 2018). The feeling of being patronized, dismissed or treated in a condescending manner were also reported as triggers to re-traumatization (Purkey et al., 2018).

A second study addressed the preferences of 152 primary care patients in a safety-net clinic revealed that 86% felt comfortable with being screened for ACEs and 73% felt comfortable discussing their ACE screening results (Goldstein, Athale, Sciolla & Catz, 2017). This study found that the patients' preferences and comfort with discussing ACEs did not correlate with their ACE scores (Goldstein et al., 2017).

Discussion and Recommendations

The indication of the prevalence and pervasiveness of adverse childhood experiences and the long-term effects described by the landmark 1998 Felitti et al. study is upheld by the current research presented in this literature review. Primary research, as well as large-scale analysis of national BRFSS data, provide an abundance of evidence that supports screening adults for ACEs; however, the gap between this knowledge and screening in primary care persists. There are no clinical guidelines to influence screening adults for ACEs, and several perceived barriers hinder individual providers from screening their patients. Growing evidence suggests that screening is warranted, feasible and desired by patients.

Several recommendations for implementation were made in the literature. The recommendations for ACE screening are strong and consistent throughout the literature, however the suggested methods by which individual primary care practices and providers might overcome the presented barriers are limited and varied. This suggests that unique and individualized plans of action are necessary. The results of the studies on provider awareness of ACEs and use of screening emphasize a need for education of physicians and nurse practitioners on the prevalence of adverse childhood experiences, the relationship of ACEs and adult health outcomes and the ACE screening tool (Weinreb et al., 2010). Opportunities for teaching about ACEs may exist in medical and graduate nursing school, as well as continued education (Weinreb et al., 2010).

Provider hesitance to screen patients due to lack of confidence in their ability, perceived lack of time to screen, and concerns about how to manage patients with high ACE scores may be overcome by processes that support the individual provider to grow in his or her own role. Many organizations are implementing trauma-informed care practices, which will cultivate a holistic approach for health and wellness through an understanding of the spectrum of illness as it relates to an individual's physical and psychological history and experiences. Implementation of ACE screening nested within the practice of trauma informed care is advantageous for both provider and patient. In trauma-informed practice, providers receive training on the sequelae of past trauma and are adept at engaging patients in discussion of their history in a sensitive and empowering manner (Kalmakis et al., 2018).

Evidence Based Practice: Verification of Chosen Option

The literature on overcoming the barriers to ACE screening and management is varied and does not denote any specific interventions for quality improvement in this area. It is clear from both the literature review and discussion with the providers at Duchesne Clinic that providers needed continued support and allotted time to process ACE screening scores in order to proceed with individualized patient-centered plans of care, especially for patients with high ACE scores.

Reflective practice is a valued tool that has been adopted across many health care disciplines including nursing (Kinsella, 2009). The practice has been incorporated into professional education programs as well as continuing education and has received endorsement from the regulatory bodies of a wide range of health and medical professions (Kinsella, 2009). The benefits of reflective practice include deep rather than superficial learning about a particular experience or situation and acquisition of new knowledge and skills (Davies, 2012). Engaging in

reflective practice also helps practitioners to evaluate their beliefs, attitudes and values, and results in improved personal and clinical confidence (Davies, 2012).

Theoretical Framework/ Evidence Based Practice Model

Donabedian's framework was chosen to underpin this quality improvement project because of the model's roots in health care outcomes research and demonstrated value in quality improvement (Polit & Beck, 2012). The three elements that comprise Donabedian's framework are structure, process, and outcomes (Polit & Beck, 2012) (see Appendix C).

Structure, process, and outcomes are recognized as three components of health care that are to be taken into account when implementing and evaluating improvement design (Hall & Roussel, 2014). Structure refers to the cultural climate and characteristics of an organization such as its' size, available services, technology and material resources (Polit & Beck, 2012). Aspects of the structure of an organization can act as a facilitator or a barrier to quality care outcomes. In Donabedian's model, structure influences processes which are the decision making and clinical interventions typically performed by the health care provider (Hall & Roussel, 2012; Polit & Beck, 2014). Lastly, the outcomes are the changes that occur as a result of the processes. The outcomes demonstrate the results of the intervention and allow for analysis of the effects of structure and process on quality improvement (Hall & Roussel, 2014).

The pertinent characteristics of structure as it relates to the Donabedian model at Duchesne clinic are as follows: safety-net clinic status, number of providers, time allotted for patient encounters and integrated health care resources available to clinic patients. Provider education and grant funding for trauma informed care are also included as structure, as these were facilitators of the intervention. The processes included four weekly, individual reflective practice sessions with providers, ongoing trauma informed care training for health care providers

through Truman Medical Center for Trauma Informed Innovation and weekly meetings with the Medical Director of Duchesne clinic.

In addition to the Donabedian model for quality improvement studies, the methodology of this project was guided by Johns' Model for Structured Reflection. This model was chosen for its' roots in the field of nursing and its' application for use with health care practitioners. Johns' Model was used to further guide the process outlined by the Donabedian Model. Christopher Johns is a nurse educator in the United Kingdom. He has written several books on reflective practice, including *Becoming a Reflective Practitioner* (2017). In this book, Johns recognizes the barriers that exist in health care which deter practitioners from providing evidence-based care and demonstrates the use of reflective practice as a tool for empowering providers to overcome these obstacles to provide quality patient care.

John's Model for Structured Reflection incorporates the following questions to guide a reflective practice session:

1. What was I trying to achieve?
2. Why did I intervene as I did?
3. What other choices did I have?
4. What would be the consequences of other interventions?
5. What were the consequences of my actions:
   For the patient?
   For myself?
6. How did I feel about the situation on reflection?
7. How did the patient feel about it?
8. Could the situation have been better dealt with?
   (Johns, 2017)

Johns (2017) emphasizes the concept that these questions should be used as a model rather than as a prescription, allowing for innovation from a script. Using the questions outlined above, an ACE Reflective Practice Guide was created by the Project Director for use at each weekly reflective practice session (See Appendix D).

Project Design

This was a quality improvement (QI) DNP project. The objective of this project was to overcome the barriers and create a sustainable process for ACE screening at Duchesne Clinic using a reflective practice intervention. A seven question survey was given to five clinic providers pre- and post-implementation to evaluate levels of confidence in ACE screening and management before and after the reflective practice intervention (see Appendix A). The Project Director used the Donabedian framework to guide the study as well as Johns' Model for Structured Reflection to guide the practice intervention.

Project Site and Population

The Duchesne Clinic is a safety-net clinic founded by the Sisters of Charity of Leavenworth over 30 years ago. The clinic provides care to adult patients at least 18 years old who are uninsured, and those who are 150% at or below the federal poverty line (J. Zaudke, personal communication, August 2018). Financial barriers and access to quality primary and mental health care are a significant problem for many Wyandotte county residents (Collie-Akers, 2017). Surprisingly, Wyandotte County has a better ratio of population to primary care physicians (1662:1) than the state of Kansas as a whole (1896:1). In addition, 18.1% of Wyandotte County residents report that they have forgone seeing a doctor because of inability to pay (Collie-Akers, 2017).

Project Participants

There are a total of six medical providers at Duchesne Clinic. Three of the provider participants are Advanced Practice Registered Nurses (APRNs) and three are Doctors of Medicine (MDs). All six of the providers participated in the reflective practice intervention. The Medical Director was present for the reflective practice sessions. The reason for this was to

create a sustainable practice, as there are plans to continue reflective practice on ACEs as part of the Medical Director's monthly meetings with each of the providers. Due to her Director role at the clinic, as well as her proximity to the aims of the project, she did not participate in the pre- and post-intervention survey.

Setting Facilitators and Barriers

Duchesne Clinic has received grant funding through the Wyandotte Health Foundation for implementation of trauma-informed care through a partnership with Truman Medical Center for Trauma Informed Innovation. They began training In November 2018. The proposed timeline for Duchesne's partnership with Truman Medical Center is one to two years. ACE screening is one of the initiatives that has been made a priority as the clinic transforms to a trauma-informed organization (J. Zaudke, personal communication, August 2018).

The staff at Duchesne clinic attended two and a half days of intensive ACE screening training with Lemonade for Life during the Fall of 2018. This program is designed to help health care professionals understand how to use ACE screening in practice. Lemonade for Life applies a hope and resilience approach for helping patients mitigate the effects of childhood trauma (Counts, Gillam, Eggers & Perico, 2017). The Project Director was present during the final session, when many staff members expressed concerns about implementation of ACE screening such as fear that it would upset the patients, logistics of where and when screening would take place, and concern about what to do to help patients with high ACE scores.

A barrier to ACE screening at Duchesne clinic is the lack of on-site behavioral health services. Due to financial barriers and lack of insurance, access to behavioral health services is limited. Although behavioral health services are not routinely present in-house at Duchesne, currently there are clinical psychology interns assisting patients with these needs at the clinic.

Additionally, Duchesne is a resource for a wide variety of outreach services to the vulnerable population of patients that they care for, including mental health counseling and services. There is also a referral system in place for such community resources.

Procedures

Screening Implemented by Duchesne Clinic. On January 1, 2019 Duchesne Clinic began ACE screening for all new patients qualifying for services as well as patients completing annual renewal paperwork. The screening forms are part of a qualifying packet that is reviewed with the patient by one primary staff member who is bilingual, Spanish and English speaking. The screening form and the reason for screening is explained to the patient. The ACE score is documented in the chart for providers to use at future visits. After requalifying, patients are given the opportunity to make an appointment with a provider and are typically able to get an appointment within two weeks. Each provider was alerted by secure electronic communication when an assigned patient was identified as having an elevated ACE score during the qualification or requalification process.

Reflective Practice Intervention. The Project Director met with each of the five clinic providers to engage in a reflective practice intervention guided by Johns' Structured Reflective Practice Model. During the weekly sessions, the provider was asked to discuss patients they had seen in the previous week where ACEs were explored with the patient. The intervention allowed for time to reflect on the information obtained in the patient visit, the providers' personal feelings about the interaction, the provider's goals for the patient, and how ACE scores can be used for future plan of care. The ACE Reflective Practice Guide (see Appendix D) was used to structure the reflective practice sessions. The session did naturally evolve into dialogue regarding the barriers and facilitators of management of ACEs at Duchesne Clinic.

Measurement Instruments

A pre- and post-intervention survey was used to assess provider confidence and perceived barriers to integration of ACEs with their patients in primary care (AppendixA). The survey consisted of seven Likert-type scale questions which were derived from questions used by two of the literature review studies. The questions were created by Weinreb et al. (2010) in an analysis of physician perceptions and beliefs about ACE screening, and later used by Kalmakis and colleagues (2017) to assess similar characteristics of nurse practitioners.

The first two questions in the pre- and post-intervention survey assessed providers' confidence in discussing ACE scores with patients and confidence in managing patients with high ACE scores. Questions number 3 and 4 assessed the providers' perception of their ability to help patients with high ACE scores and their perception of their role in screening for ACEs. The last three questions assessed the providers' perception of the barriers of time constraint, potential re-traumatization, and competing primary care recommendations. The seven survey questions were chosen because they aligned with the major barriers to ACE management cited in the literature review and similarly voiced by staff and providers during the Lemonade for Life training.

Data Collection Procedures

Consent was obtained (see Appendix E). The pre-intervention survey was completed by the providers prior to the first session. Weekly meetings took place over four weeks throughout the month of April. The first week of May was used to make up sessions with providers who were unable to make one of the meetings in April. The Project Director led reflective practice related to specific patient encounters where high ACE scores were discussed. The ACE Reflective Practice Guide questions outlined in Appendix D was used to structure each

approximately one-hour session. To gain a more contextual understanding of screening and management, notes were recorded during the sessions which were later turned in to the Medical Director. The recorded responses will be used for future improvement of ACE screening and management, ideas for best practice, and further activity directed at the perceived facilitators and barriers to ACE screening at Duchesne Clinic. The content was also used by the Duchesne Director of Development for grant applications and future trauma informed care planning. . Finally, the providers completed a post-intervention survey when four weekly sessions were completed.

Ethical Considerations/ Protection of Human Subjects

The University of Kansas Internal Review Board (IRB) approval was obtained prior to initiating this DNP project. Participants were protected by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). Consent was obtained by all providers prior to initiation of the reflective practice intervention. The consent clearly defined the purpose of the project and specified that participation in the project and the information shared during the reflective practice sessions in no way affected employment status (See Appendix E).

Patient screening for ACEs was an independent function of Duchesne Clinic which began prior to the implementation of this project. The Project Director did not engage with patients directly regarding ACE screening or management as part of this project. The ACE screenings were held on site in a secure location under the supervision of staff selected by the Duchesne Clinic Medical Director, electronically scanned by Duchesne Clinic personnel into the patients' charts and subsequently destroyed by shredding. All Electronic Health Records used are password protected to prevent access by unauthorized users and are available only to the staff involved in the patients' care.

All information that was utilized in this project was stripped of identifiers. Confidentiality was maintained, as neither patient nor provider identifiers were attached to the data gathered during the guided reflective practice sessions. Each provider and session was numerically coded; for example: Provider 1, session 1, 2, 3, 4. Provider identifiers were not used on the pre- and post-intervention survey; these documents were numerically coded. Notes taken during the reflective practice sessions were shredded upon completion of the project.

Data Analysis

The pre and post-intervention survey data was analyzed to assess changes in providers' confidence and perceived barriers to management of patients with high ACE scores after four weeks of guided reflective practice intervention. The purpose of this data analysis was to evaluate the effectiveness of a guided reflective practice intervention as a tool for overcoming the barriers of ACE screening at Duchesne Clinic. Descriptive analysis of the notes taken during the sessions was used by the Project Director to identify common themes throughout the set of guided reflective practice interviews.

Results

Quantitative Analysis

Given the small sample size (n=5) and QI nature of the project, statistical analysis via t-test or Wilcoxen are not appropriate. Pre and post-intervention survey data were entered into Excel for analysis. Paired data (n=5) for each of the seven questions on the ACE Provider Questionnaire were included in the data analysis. Excel was used to calculate means of the data to assess changes in the providers responses pre- and post-intervention. A statistical mean and the mean gain for each question is reported below.

The first two questions on the ACE Provider Questionnaire intend to measure provider confidence in discussing and managing screening results with patients. The Likert-type response options for these two questions are as follows: not at all confident (1), somewhat confident (2), moderately confident (3) and very confident (4). For question number 1, the pre-test mean score was 2.8. The post-test mean score for this question was 4, which is a mean gain of 1.2. The mean response for question number 2 increased from 2.6 to 3.8, with a mean gain of 1.2.

Reverse scoring was used for question number 3, discovering a mean gain of 1.0 after the guided reflective practice intervention, which revealed providers' increased awareness about their ability to help patients who have experienced childhood trauma. The fourth survey question asked to what extent the provider feels that it is their role in Primary Care to screen for a history of childhood abuse. The pre and post intervention responses for this question also yielded a mean gain (0.4).

Question numbers 5 through 7 are intended to evaluate the most commonly perceived barriers to ACE screening and management in Primary Care. These three questions were entered into Excel using reverse scoring, as a decrease in the Likert- type scoring from 4 (great extent) to 1 (not at all) indicates a positive shift, with reduced perception of these elements as barriers to ACE implementation. Analysis of the responses for question number 5, "To what extent do you feel that time constraints are a barrier to evaluate and counsel victims of childhood trauma?" reveals a mean gain of 0.6. There was a pre and post mean gain of 1 for question number 6, which demonstrated a decline in the perception that discussing ACEs with patients is re-traumatizing. Lastly, there was a small mean gain of 0.25 in the analysis of the data collected for question number 7, which addressed the perception of "competing primary care recommendations as a barrier to addressing ACEs during patient visits.

Table 1

Adverse Childhood Experiences (ACE) Provider Questionnaire Pre and Post-Test Means

Question	Pre-Intervention Mean	Post-Intervention Mean	Mean Gain
1. How confident do you feel in discussing ACE screening results with adult primary care patients?	2.8	4	1.2
2. How confident do you feel in managing patients with high ACE scores?	2.6	3.8	1.2
3. To what extent do you feel that there is little that you can do to help patients who have revealed a history of childhood trauma?	2.8	3.8	1
4. To what extent do you feel that it is your role as a Primary Care Physician/ Nurse Practitioner to screen for a history of childhood abuse?	3.4	3.8	0.4
5. To what extent do you feel that time constraints are a barrier to evaluate and counsel victims of childhood trauma?	1.2	1.8	0.6
6. To what extent do you feel that re-traumatizing the patient is a barrier to discussing trauma history with patients?	2.6	3.6	1
7. To what extent are competing primary care recommendations a barrier to addressing ACEs during your patient visits?	2	2.25	0.25

Note: Likert- type questions 1 and 2 scale as follows: 1= Not at All confident, 2= Somewhat Confident, 3=Moderately Confident, 4= Very Confident;
Questions 3and 4: 1= Not at All, 2= Small Extent 3= Moderate Extent, 4= Great Extent
Questions 5 through 7: 1= Not a Barrier, 2 Minor Barrier 3= Moderate Barrier, 4= Major Barrier
**This table reflects reverse scoring used for questions 3,5,6 and 7 as a decrease in the Likert-type scoring from 4 to 1 indicates a positive shift*

The table below depicts the data, analyzed by provider. The mean gains from pre to post-intervention range from 0.15 to 1.29 with an average gain of 0.82. This reveals that on average,

the responses provided by the providers to the seven questions increased by approximately one point each.

Table 2

ACE Questionnaire Pre and Post-Test Means and Mean Gain by Provider

Provider	Pre- Intervention Mean	Post- Intervention Mean	Mean Gain
1	2.71	3.57	0.86
2	2	2.86	0.86
3	2.57	3.49	0.92
4	2	3.29	1.29
5	3.14	3.29	0.15
All providers	2.49	3.29	0.80

Qualitative Analysis

According to Vaismoradi, Turunen and Bondas (2013), thematic analysis is a descriptive qualitative approach that involves identifying, analyzing, and reporting common threads in a set of interviews. The notes taken during the reflective practice sessions were assessed to identify themes expressed by the providers in their reflection of their encounters with patients and their perceptions regarding management of patients with high ACE scores. The themes that emerged from this analysis were: time as a barrier; feeling unprepared and unable to help patients with trauma history; re-traumatization; and strategies/ tools for caring for patients with a history of trauma. Discussion regarding these themes is included below.

Discussion and Conclusions

Interpretation of Results

Quantitative. All seven of the questions on the ACE Provider Questionnaire yielded mean gains ranging between 0.25 to 1.2. This is clinically significant and indicates that guided

reflective practice by use of the ACE Reflective Practice Guide (Appendix D) was successful in assisting the providers at Duchesne Clinic to gain confidence and reduce the barriers to caring for patients with high ACE scores. The smallest mean gain was found in question 7, which asks how providers perceive competing primary care recommendations as playing a role in their ability to assess patients for ACEs and address this trauma history during their visit. Similarly, one of the lower mean gains was calculated for question number 5, which asks how providers perceive time constraints as a barrier for addressing ACEs. This shows that although there was a shift toward believing that ACEs could be discussed within the time constraints of a thirty-minute patient visit, providers still feel that they lack sufficient time to address ACEs when caring for patients with multiple medical needs.

The greatest mean gains were calculated in the first two questions, which address provider confidence in discussing high ACE scores with patients and managing their needs surrounding this trauma history. After four weeks of guided reflective practice, all five of the providers rated themselves "very confident" in discussing ACE screening results with their patients. Four out of five providers reported that they felt "very confident" in managing patients with high ACE scores. This is consequential, as provider confidence has been found to be one of the highest predictors of ACE screening and management in primary care (Weinreb, 2010). The more confident a provider feels with discussing childhood trauma history, the more likely the provider is to address ACEs with their patients (Weinreb, 2010)

Qualitative. A thematic analysis of the notes taken during all the interviews over the four-week guided reflective practice intervention yielded the following themes: time as a barrier; feeling unprepared and unable to help patients with trauma history; re-traumatization; and strategies and tools for caring for patients with a history of trauma. These themes are strikingly

similar to those found in the literature review. These themes also align very closely with the concepts that were studied in the ACE Provider Questionnaire.

Time as a barrier. During the interviews, all of the providers voiced concerns about having enough time to bring up a conversation about childhood trauma history with their patients who were found to have high ACE scores (≥4). They expressed apprehension about "opening up a can of worms" when they were often already managing multiple chronic and acute medical issues within a 30-minute visit. Congruent with the Landmark Felitti et al. study (1998) as well as the BRFSS data presented in the literature review, providers also noticed that their patients who had high ACE scores also had multiple comorbidities and health risk behaviors.

Throughout the discussions from week to week, the providers conceptualized the notion that although addressing ACEs may consume some or all of a patient visit, putting in the time upfront to discuss childhood trauma and design a plan of care with the patient around their increased risk and mitigating factors may prove to save immeasurable amounts of time in the future. When confronting the issue of childhood trauma and the known increased risk for chronic disease, there is opportunity to intervene early and possibly avert devastating illness thus saving patient suffering, as well as the significant time and resources that are devoted to chronic illness in our country.

Feeling unprepared and unable to help. The theme of feeling unprepared and unable to help patients who reveal a history of childhood trauma relates directly to a lack of confidence in discussing and managing patients with high ACE scores. At the start, providers admitted a lack of confidence that they felt was rooted in their inability to provide a solution regarding childhood trauma for their patients. They felt that their role as a provider was to be able to provide a solution to an ailment. They often felt powerless in not being able to guarantee referrals for

mental health to their patients with very limited financial and medical resources. As the weeks went on and the providers gained experience with discussing ACEs with their patients and reflecting on them at the sessions, they began to describe increased confidence. Many of the providers described that their patients seemed unrepressed with telling about their trauma history.

Strategies and Tools. The providers were very interested in attaining strategies and tools to use with their patients. The Project Director incorporated information from accredited websites including acesconnection.com and the American Academy of Pediatrics, as well as from the sources cited in the literature review into the reflective practice sessions. Providers felt an increased confidence in knowing that one of the most significant things they could do to address patients' ACE history is to provide them with the knowledge that Duchesne is a safe place to discuss their trauma, to tell them that they are not alone, and to emphasize that the provider is there to support and facilitate all of their physical and mental health needs. During the sessions the providers practiced trauma-sensitive language, which prompted a trauma-informed care educational session with the Truman Medical Center for Trauma Informed Care educator on strategies for communication. They adopted the phrase, "You are not alone; it is not your fault, and I will help" from the American Academy of Pediatrics website. (Addressing adverse childhood experiences, 2014).

Providers also expressed value in the ability to use their medical expertise to help mitigate the potential negative effects of childhood trauma. They found value in the evidence that healthy sleep and exercise habits can counteract the effects of ACEs (Nurius, Green, Logan-Greene & Boria, 2015). This is something that their medical training supported, and they were confident in counseling their patients through these lifestyle adjustments.

Re-traumatization. The last theme identified was the fear of re-traumatizing patients by bringing up Adverse Childhood Experiences. Some providers were surprised to learn that qualitative research on the subject reveals that patients are not re-traumatized by talking about their ACEs and that they not only expect to be asked about it, but feel that it is an important component of holistic care (Purkey et al., 2018). The Project Director shared case studies described in the Purkey et al. article as well as a patient narrative found on acesconnection.com. Toward the end of the month of guided reflective practice sessions, the providers verbalized alleviation of fears of re-traumatization brought about by the evidence described combined with their experiences talking with their patients. This result is also shown in the one point mean shift in the perception of re-traumatization as less of a barrier to ACE discussion (Table 1).

Limitations

There were several limitations to this project. Although the evidence found by analyzing means of pre- and post-test scores as well as thematic analysis revealed that the intervention was successful for Duchesne providers, these results may vary widely by institution. The presence of the Medical Director at the sessions may be seen to have had an inherent effect on the authenticity of the providers' responses. However, given the mutually supportive relationship between the providers and the Medical Director, the providers' reflections did not seem repressed, but rather enhanced as providers were able to voice their needs and concerns regarding ACE education of staff and screening practices. The topic of voice recording the sessions to aid in thematic analysis was debated prior to proposal of the project, and it was decided not to record in order to maintain the authenticity of reflective practice and the goals of this project as quality improvement. Therefore, the thematic analysis was conducted using notes taken during the sessions, leaving recording and interpretation up to the Project Director.

However, this met the goals of the project, with a focus on thematic analysis, with an intent to explore common threads rather than content analysis, which aims to quantify themes (Vaismoradi, Turunen and Bondas, 2013).

Implications

The guided reflective practice sessions met the goal of giving Duchesne Clinic providers designated time to discuss specific cases, work through their interactions with patients, and move toward a plan of care that integrates knowledge of the patient's history of trauma. Additionally, the sessions facilitated rich, honest and productive conversations between the Project Director, the Medical Director of Duchesne and each of the five providers and yielded a set of best practices for ACE screening and management at Duchesne Clinic. Lack of guidelines for ACEs in adult Primary Care makes this especially useful for the clinic.

In consultation with the Medical Director and notes taken by herself and the Project Director, the following practices will serve to guide and improve ACE screening and implementation at Duchesne Clinic:

- The providers agree on the importance of opening the conversation about ACEs by asking the patient's permission to discuss their ACE screening;
- ACE screening and management will be incorporated within a larger framework of trauma-informed care;
- The providers will continue to develop trauma-sensitive language to let patients know that they are safe, valued, heard, not alone and not responsible for the trauma that they have experienced;
- The discussion of ACEs between providers and patients will aim to assess and facilitate behavior changes to promote resilience and mitigate the effects of the trauma;

- The messaging to the patients about ACEs will be based on the science of brain development;
- A video will be created to introduce patients to the clinic and explain the reasoning for ACE screening and how it will be incorporated into their care.

Incorporating behavioral health including ACE screening and management into primary care is a priority for Duchesne Clinic. To address the issue of time constraints as a barrier, longer visits may be scheduled to allow for time to address high ACE scores. Providers can plan to follow up more closely with additional appointments when necessary to provide ongoing discussion surrounding ACEs and mitigating the negative effects of trauma.

The Medical Director plans to continue this reflective practice as part of her monthly meetings with each of the providers. Secondary fatigue as a result of the changes to become trauma-informed is acknowledged by the leadership at Duchesne Clinic. Enhanced efforts to provide ongoing support for all staff who are involved in patient care is recognized as central to the success of the transition.

Duchesne Clinic is tracking ACE screening data alongside Social Determinants of Health screening data and referrals to outside services. This information will lend greater understanding of the needs of the patient population at Duchesne Clinic. In its progressive actions to incorporate behavioral health into primary care, Duchesne Clinic will serve as an example for other adult, Primary Care clinics. The evidence collected during this project, stripped of patient and provider identifiers, has been used for applications for additional grant funding to support the goal of the transformation to a trauma-informed care, primary care, safety net clinic.

References

Addressing adverse childhood experiences and other types of trauma in the primary care setting. (2014). Retrieved April 2, 2019, from https://www.aap.org/en-us/Documents/ttb_addressing_aces.pdf.

Campbell, J.A., Walker, R.J., & Egede, L.E. (2016). Associations between Adverse Childhood Experiences, high-risk behaviors, and morbidity in adulthood. *American Journal of Preventive Medicine, 50* (3), 344-352. doi: 10.1016/j.amepre.2015.07.022

CDC. (2018a). About Chronic Disease. *Centers for Disease Control and Prevention*. Retrieved July 15, 2018 from https://www.cdc.gov/chronicdisease/about/index.htm

CDC. (2018b). Health and Economic Cost of Chronic Disease. *Centers for Disease Control and Prevention.* Retrieved July 15, 2018 from https://www.cdc.gov/chronicdisease/about/costs/index.htm

CDC. (2018c). About Behavioral Risk Factor Surveillance System ACE data. *Centers for Disease Control and Prevention*. Retrieved August 10, 2018 from https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/ace-brfss.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Facestudy%2Face_brfss.htmlOb

Collie-Akers, V., Bravo, J., Schultz, J., Obermeier, C.S., Sepers, C., & Landry, S. (2017). Wyandotte county community health assessment. Retrieved July 18, 2018 from https://static1.squarespace.com/static/569e85d642f552b94cb735a8/t/5939810759cc6877bad075ce/1496940810454/Wyandotte+County+CHA_Issue+Briefs.pdf

Counts J.M., Gillam, R.J., Perico, S., & Eggers, K.L. (2017) Lemonade for Life- A pilot study on a hope-infused, trauma-informed approach to help families understand their past and

focus on the future. *Children and Youth Services Review, 79*, 228-234. doi: 10.1016/j.childyouth.2017.05.036

Davies, S. (2012) Embracing reflective practice. *Education for Primary Care, 23*(1), 9-12. doi:10.1080/14739879.2012.11494064.

Dayton, L., Agosti, J., Bernard-Pearl, D., Earls, M., Farinholt, K., Groves,…Wissow, L.S. (2016) Integrating mental and physical health services using a socio-emotional trauma lens. *Current Problems in Pediatric and Adolescent Health Care, 46*(12), 391-401. doi: 10.1016/j.cppeds.2016.11.004

Earls, M.F. (2018) Trauma-informed primary care: prevention, recognition, and promoting resilience. *North Carolina Medical Journal, 79*(2), 108-112. doi: 10.18043/ncm.79.2.108

Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards,…Marks, J.S. (1998) Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine, 14*(4), 245-258.

Glowa, P.T., Olson, A.L., & Johnson, D.J. (2016). Screening for adverse childhood experiences in a family medicine setting: A feasibility study. *The Journal of the American Board of Family Medicine, 29*(3), 303-307. doi: 10.3122/jabfm.2016.03.150310

Goldstein, E., Athale, N., Sciolla, A.F., & Catz, S.L. (2017) Patient Preferences for discussing childhood trauma in primary care. *The Permanente Journal, 21*. doi: 10.7812/TPP/16-055

Grazier, K.L., Smiley, M.L., & Bondalapati, K.S. (2016) Overcoming barriers to integrating behavioral health and primary care services. *Journal of Primary Care and Community Health, 7*(4), 242-248. doi: 10.1177/2150131916656455

Hall, H.R. & Roussel, L.A. (2014) *Evidence-based practice: An integrative approach to research, administration, and practice.* Burlington, MA: Jones & Bartlett Learning.

Havig, K. (2008) The health care experiences of adult survivors of child sexual abuse: A systematic review of evidence on sensitive practice. *Trauma, Violence, & Abuse, 9*(1), 19-33. doi: 10.1177/1524838007309805

Jichlinski, A. (2017) Defang ACEs: End toxic stress by developing resilience through physician-community partnerships. *Pediatrics, 140*(6), 1-3. doi: 2048/10.1542/peds.2017-2869

Johns, C. (2017). *Becoming a reflective practitioner* (5th ed.). Chichester, West Sussex: Wiley Blackwell.

Kalmakis, K. A., & Chandler, G.E. (2015) Health consequences of adverse childhood experiences: A systematic review. *Journal of the American Association of Nurse Practitioners, 27*(8), 457-465. doi: 10.1002/2327-6924.12215

Kalmakis, K.A., Chandler, G.E., Roberts, S.J., & Leung, K. (2017) Nurse practitioner screening for childhood adversity among adult primary care patients: A mixed- method study. *Journal of the American Association of Nurse Practitioners, 29*(1), 35-45. doi: 10.1002/2327-6924.12378

Kalmakis, K.A., Shafer, M.B., Chandler, G.E., Aponte, E.V. & Roberts, S.J. (2018) Screening for childhood adversity among adult primary care patients. *Journal of the American Association of Nurse Practitioners, 30*(4), 193-200. doi: 10.1097/JXX.0000000000000033

Kinsella (2009) Professional knowledge and the epistemology of reflective practice. *Nursing Philosophy, 11*(1), 3-14. Doi:10.1111/j.1466-769X.2009.00428.x.

Leitch, L. (2017) Action steps using ACEs and trauma-informed care: a resilience model. *Health Justice, 5*(1), 5. doi: 10.1186/s40352-017-0050-5. Epub 2017 Apr 28.

Merrick, M.T., Ford, D.C., Ports, K.A., Guinn, A.S. (2018) Prevalence of Adverse Childhood Experiences from the 2011-2014 Behavioral Risk Factor Surveillance System in 23 states. *JAMA Pediatrics, 172*(11), 1038-1044. doi: 10.1001/jamapediatrics.2018.2537

Miller-Cribbs, J.E., Wen, F., Coon, K.A., Jelley, M.J., Foulks-Rodriguez, K., & Stearns, J. (2016) Adverse Childhood Experiences and inequities in adult health care access. *International Public Health Journal, 8*(2), 257-270.

Nurius, S.P., Green, S., Logan-Greene, P. & Boria, S. (2015) Life course pathways of Adverse Childhood Experiences toward adult psychological well-being: A stress process analysis. *Child Abuse & Neglect, 45*, 143-153. doi: 10.1016/j.chiabu.2015.03.008

Newhouse R, Dearholt S, Poe S, Pugh LC, White K. The Johns Hopkins Nursing Evidence-based Practice Rating Scale. 2005. Baltimore, MD, The Johns Hopkins Hospital; Johns Hopkins University School of Nursing.

Pardee, M., Kuzma, E., Dahlem, C.W., Boucher, N., Darling-Fisher, C.S. (2017) Current state of screening high-ACE youth and emerging adults in primary care, *Journal of the American Association of Nurse Practitioners, 29(12),* 716-724. doi: 10.1002/2327-6924.12531.

Polit, D.F. & Beck, C.T. (2012) *Nursing Research: Generating and assessing evidence for nursing practice.* Philadelphia, PA: Lippincott Williams & Wilkins.

Purkey, E., Patel, R., Beckett, T., & Mathieu, F. (2018) Primary care experiences of women with a history of childhood trauma and chronic disease. *Canadian Family Physician, 64*(3), 204-211.

SAMHSA. (2017). Trauma & Adverse Childhood Experiences: implications for preventing substance misuse Substance Abuse and Mental Health Services Administration, retrieved September 25, 2018 from https://www.samhsa.gov/capt/tools-learning-resources/trauma-adverse-childhood-experiences-implications-preventing-substance

Schussler- Fiorenza Rose, S.M., Xie, D., & Stineman, M. (2015) Adverse Childhood Experiences & disability in US adults. *Physical Medicine and Rehabilitation, 6*(8), 670-680. doi:10.1016/j.pmrj.2014.01.013

Tink, W., Tink, J.C., Turin, T.C., & Kelly, M. (2017) Adverse Childhood Experiences: Survey of resident practice, knowledge, and attitude. *Family Medicine, 49*(1), 7-13.

Vaismoradi, M., Turenen, H., & Bondas, T. (2013) Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences, 15*(3), 398-405. doi: 10.1111/nhs.12048.

Weinreb, L., Savageau, J.A., Candib, L.M., Reed, G.W., Fletcher, K.E., & Hargraves, J.L. (2010) Screening for childhood trauma in adult primary care patients: A cross-sectional survey. *The Primary Care Companion to The Journal of Clinical Psychiatry, 12*(6). doi: 10.4088/PCC.10m00950blu

Appendix A

Adverse Childhood Experiences (ACE) Provider Questionnaire

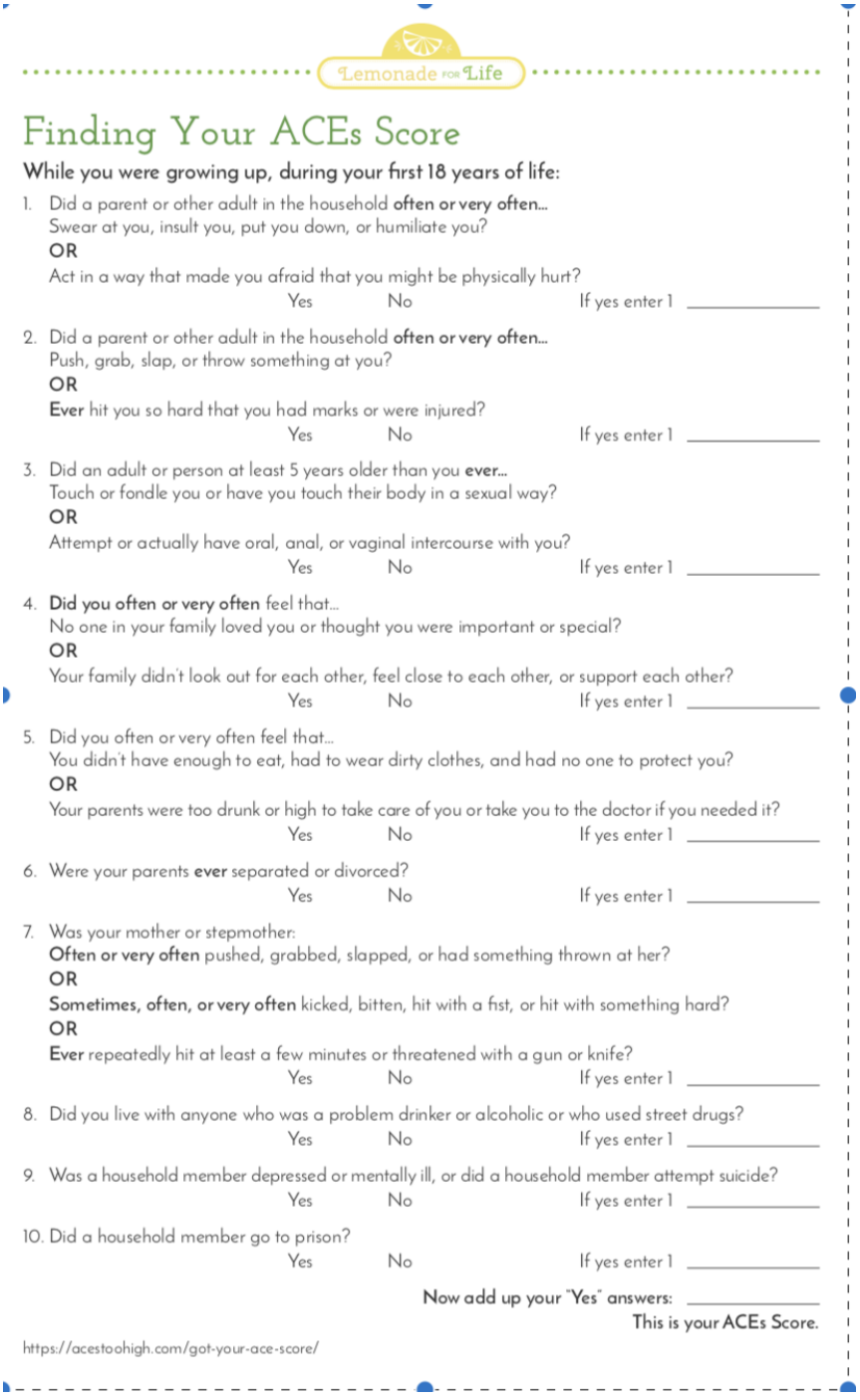
	Not at All Confident	Somewhat Confident	Moderately Confident	Very Confident
1. How confident do you feel in discussing ACE screening results with adult primary care patients?	1	2	3	4
2. How confident do you feel in managing patients with high ACE scores?	1	2	3	4

	Not at All	Small Extent	Moderate Extent	Great Extent
3. To what extent do you feel that there is little that you can do to help patients who have revealed a history of childhood trauma?	1	2	3	4
4. To what extent do you feel that it is your role as a Primary Care Physician/ Nurse Practitioner to screen for a history of childhood abuse?	1	2	3	4

	Not a Barrier	Minor Barrier	Moderate Barrier	Major Barrier
5. To what extent do you feel that time constraints are a barrier to evaluate and counsel victims of childhood trauma?	1	2	3	4
6. To what extent do you feel that re-traumatizing the patient is a barrier to discussing trauma history with patients?	1	2	3	4
7. To what extent are competing primary care recommendations a barrier to addressing ACEs during your patient visits?	1	2	3	4

Appendix B

Adverse Childhood Experiences (ACE) Screening Tool



Lemonade FOR Life

Finding Your ACEs Score

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often or very often…**
   Swear at you, insult you, put you down, or humiliate you?
   OR
   Act in a way that made you afraid that you might be physically hurt?
   Yes No If yes enter 1 _____

2. Did a parent or other adult in the household **often or very often…**
   Push, grab, slap, or throw something at you?
   OR
   Ever hit you so hard that you had marks or were injured?
   Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever…**
   Touch or fondle you or have you touch their body in a sexual way?
   OR
   Attempt or actually have oral, anal, or vaginal intercourse with you?
   Yes No If yes enter 1 _____

4. **Did you often or very often** feel that…
   No one in your family loved you or thought you were important or special?
   OR
   Your family didn't look out for each other, feel close to each other, or support each other?
   Yes No If yes enter 1 _____

5. Did you often or very often feel that…
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   OR
   Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
   Yes No If yes enter 1 _____

6. Were your parents **ever** separated or divorced?
   Yes No If yes enter 1 _____

7. Was your mother or stepmother:
   Often or very often pushed, grabbed, slapped, or had something thrown at her?
   OR
   Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
   OR
   Ever repeatedly hit at least a few minutes or threatened with a gun or knife?
   Yes No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
   Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill, or did a household member attempt suicide?
   Yes No If yes enter 1 _____

10. Did a household member go to prison?
    Yes No If yes enter 1 _____

Now add up your "Yes" answers: _____

This is your ACEs Score.

https://acestoohigh.com/got-your-ace-score/

Adverse Childhood Experiences (ACE) Screening Tool (Spanish)

Lemonade FOR Life

Cuál es su puntuación ACE?

Antes de cumplir 18 años:

1. Alguno de sus padres u otros adultos en su casa **con frecuencia o con mucha frecuencia...**
   Lo ofendían, lo insultaban, lo menospreciaban, o lo humillaban? **o**
   Actuaban de tal forma que temía que lo fueran a lastimar físicamente?
   Si No Si la respuesta es SI anote 1 _____

2. Alguno de sus padres u otros adultos en su casa **con frecuencia o con mucha frecuencia...**
   Lo empujaban, lo jalaban, lo cacheteaban, o le aventaban cosas? **o**
   Alguna vez lo golpearon con tanta fuerza que le dejaron marcas o lo lastimaron?
   Si No Si la respuesta es SI anote 1 _____

3. Algún adulto o alguna otra persona cuando menos 5 años mayor que usted **alguna vez...**
   Lo tocó o acarició indebidamente o le pidió que usted lo tocara de alguna forma sexual? **o**
   Intentó tener relaciones sexuales orales, anales o vaginales con usted?
   Si No Si la respuesta es SI anote 1 _____

4. Se sentia usted **con frecuencia o con mucha frecuencia** que...
   Nadie en su familia lo quería o pensaba que usted era especial o importante? **o**
   En su familia no se cuidaban unos a los otros, no sentían que tenían una relación cercana,
   o no se apoyaban unos a los otros?
   Si No Si la respuesta es SI anote 1 _____

5. Se sentia usted **con frecuencia o con mucha frecuencia** que...
   No tenía suficiente comida, tenía que usar ropa sucia, o no tenía nadie que lo protegiera? **o**
   Sus padres estaban demasiado borrachos o drogados para cuidarlo o llevarlo al medico
   si es que lo necesitaba?
   Si No Si la respuesta es SI anote 1 _____

6. **Alguna** vez perdió un padre o una madre biológico(a) debido a divorcio, abandono,
   o alguna otra razón?
   Si No Si la respuesta es SI anote 1 _____

7. A su madre o madrastra:
   Con frecuencia o con mucha frecuencia la empupjaban, jalaban, golpeaban,
   o le aventaban cosas? **o**
   A veces, con frecuencia, o con mucha frecuencia le pegaban, la mordían,
   la daban puñetazos, o la golpeaban con algun objeto duro? **o**
   Alguna vez la golpearon durante varios minutos seguidos o la amenazaon
   con una pistola o un cuchillo?
   Si No Si la respuesta es SI anote 1 _____

8. Vivió usted con alguien que era borracho o alcoholico, o que usaba drogas?
   Si No Si la respuesta es SI anote 1 _____

9. Algún miembro de su familia sufría de depresión o enfermedad mental,
   o alguien en su familia trató de suicidarse?
   Si No Si la respuesta es SI anote 1 _____

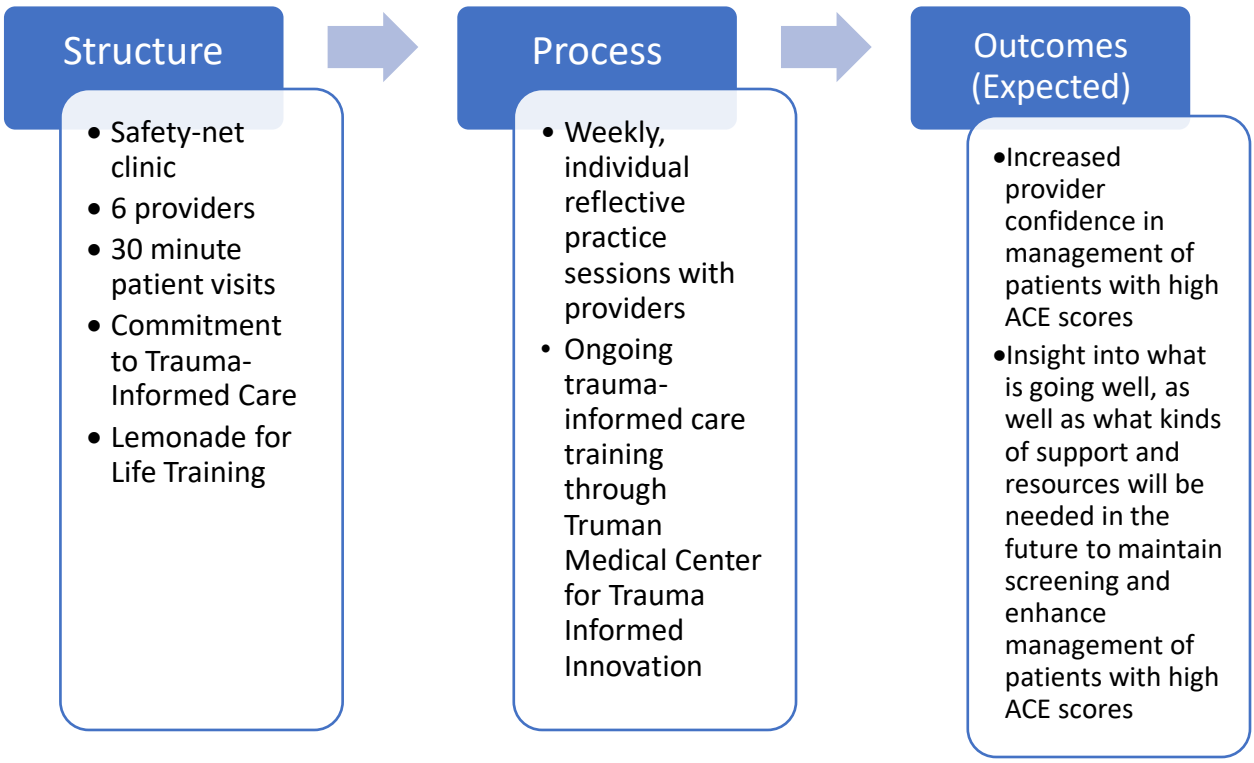
10. Algún miembro de su familia fué a la carcel?
    Si No Si la respuesta es SI anote 1 _____

Ahora sume las respuestas en que anoto "SI. _____
Esta es su puntuación ACE

Adaptado de: http://aceresponse.org/img/uploads/file/Spanish_20ACE_20Questionnaire-1.pdf

Appendix C

Donabedian Model



Appendix D

ACE Reflective Practice Guide

1. What was the patient's ACE score?
2. How did you approach the discussion of Adverse Childhood Experiences with this patient?
3. How did you feel about the conversation with the patient?
4. How do you think the patient perceived the conversation?
5. What were you hoping to achieve in the discussion?
6. Were there any barriers to integrating ACE management into your visit with the patient?
7. Does this patient have any chronic physical or psychological illnesses that could be a result of their trauma history?
8. How does knowledge of the patient's history of trauma affect your future plan of care for this patient?
    - Management of chronic diseases
    - Screening practices
    - Patient education and assistance with substance abuse cessation
    - Patient education about the relationship between ACEs and adult health
    - Referrals
9. How do you plan to follow-up with this patient?
10. What, if anything, would you do differently next time you approach the topic of ACEs with a patient for the first time?

Appendix E

Adverse Childhood Experiences Guided Reflective Practice Intervention

Quality Improvement Project Informed Consent

Purpose of the Study: The primary purpose of this study is to implement a guided reflective practice intervention with Duchesne Clinic providers to facilitate management of patients with high ACE scores. In signing this document, you are consenting to participate in guided reflective practice sessions with the Project Director, Erika Sjursen and the Medical Director, Dr. Jana Zaudke. This project will consist of 4 weekly sessions where we will reflect on your experiences with discussing ACEs with your patients. You will be asked to complete a survey before and after the 4 weeks of reflective practice sessions. Additionally, the content discussed during the reflective practice sessions will be used to identify commonly perceived barriers and facilitators of ACE screening and management of patients with high ACE scores at Duchesne Clinic.
Confidentiality: Confidentiality will be maintained as neither patient nor provider identifiers will be attached to the data gathered during the guided reflective practice sessions. Each provider and session will be numerically coded; for example: Provider 1, session 1, 2, 3, 4. Each survey will also be numerically coded to maintain privacy. Notes will be destroyed at the completion of the project. Information obtained during the course of this project and the reflective practice sessions will not be shared with other staff members and will not in any way affect your employment status. Refusal to participate in this project will not affect your employment status.
Statement of Consent: I have read the above information and have received answers to any questions I asked.

I consent to participate in this quality improvement project.

Your Signature _____ Date _____

Your Name (Printed) _____

Signature of person obtaining consent _____

Date _____

Printed name of person obtaining consent _____